

- C 51
concl
- b) washing the resulting hybrid under non-stringent conditions; and
- c) detecting said hybrid.

D

44. (Once Amended) The method of claim 42, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

C 2

Probe

FIG. 6

GTGGAAGGCGAGACTGAAAGCAGAGGAATACCATTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGGCTGTAACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGGAACGCCCTCATATTCTCTGTATAATATACCCGCTGCTTG
CATTGTACTTCAGTCGCTCTGCGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGCTGGCAGAGGGCCCCACGCTTGCCTGCTTAAAA
ACCTTCCTTAATAAAGGTGCAGTAGAAGCA

D

112 & 11:

C2

45. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2:

CAG2000

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr
400
ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer
ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys
PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly
500
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp
HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu
600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro
AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr
700
ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

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12

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal
LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
1100
AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
1200
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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46. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

ArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGlnGlnGlyGluThrProTyrArgGluProProThrGluAsp
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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47. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAspLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGluLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr

400

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48. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer
ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys
PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly
500
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp
HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu
600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro
AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr
700
ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln
AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal
LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGlnAlaLeuLysGluValIleGlyPro
1100
AlaProIleProPheAlaAlaAlaGlnGln

11261

Q2

probe

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D

49. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2.

ENV28

Met Met Asn Gln Leu Leu Ile Ala Ile Leu Leu Ala Ser Ala Cys
Leu Val Tyr Cys Thr Gln Tyr Val Thr Val Phe Tyr Gly Val Pro
Thr Trp Lys Asn Ala Thr Ile Pro Leu Phe Cys Ala Thr Arg Asn
100 Arg Asp Thr Trp Gly Thr Ile Gln Cys Leu Pro Asp Asn Asp Asp
Tyr Gln Gln Ile Thr Leu Asn Val Thr Glu Ala Phe Asp Ala Trp
200 Asn Asn Thr Val Thr Glu Gln Ala Ile Glu Asp Val Trp His Leu
Phe Glu Thr Ser Ile Lys Pro Cys Val Lys Leu Thr Pro Leu Cys
300 Val Ala Met Lys Cys Ser Ser Thr Glu Ser Ser Thr Gly Asn Asn
Thr Thr Ser Lys Ser Thr Ser Thr Thr Thr Thr Thr Pro Thr Asp
400 Gln Glu Gln Glu Ile Ser Glu Asp Thr Pro Cys Ala Arg Ala Asn
Asn Cys Ser Gly Leu Gly Glu Glu Glu Thr Ile Asn Cys Gln Phe
Asn Met Thr Gly Leu Glu Arg Asp Lys Lys Lys Gln Tyr Asn Glu
500 Thr Trp Tyr Ser Lys Asp Val Val Cys Glu Thr Asn Asn Ser Thr
Asn Gln Thr Gln Cys Tyr Met Asn His Cys Asn Thr Ser Val Ile
600 Thr Glu Ser Cys Asp Lys His Tyr Trp Asp Ala Ile Arg Phe Arg
Tyr Cys Ala Pro Pro Gly Tyr Ala Leu Leu Arg Cys Asn Asp Thr
700 Asn Tyr Ser Gly Phe Ala Pro Asn Cys Ser Lys Val Val Ala Ser

C2

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ThrCysThrArgMetMetGluThrGlnThrSerThrTrpPheGly

800

PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis

GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn

900

LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln

IleMetLeuMetSerGlyHisValPheHisSerHisTyrGlnPro

IleAsnLysArgProArgGlnAlaTrpCysTrpPheLysGlyLys

1000

TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro

ArgTyrArgGlyThrAsnAspThrArgAsnIleSerPheAlaAla

1100

ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn

CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn

1200

TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysHisIle

LysGlnIleIleAsnThrTrpHisLysValGlyArgAsnValTyr

1300

LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr

SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn

IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu

1400

GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg

1500

GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly

SerAlaMetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer

1600

ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnGlnLeuLeu

AspValValLysArgGlnGlnGluLeuLeuArgLeuThrValTrp

1700

GlyThrLysAsnLeuGlnAlaArgValThrAlaIleGluLysTyr

LeuGlnAspGlnAlaArgLeuAsnSerTrpGlyCysAlaPheArg

1800

GlnValCysHisThrThrValProTrpValAsnAspSerLeuAla

ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal

ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln

1900

IleGlnGlnGluLysAsnMetTyrGluLeuGlnLysLeuAsnSer

TrpAspIlePheGlyAsnTrpPheAspLeuThrSerTrpValLys

2000

TyrIleGlnTyrGlyValLeuIleIleValAlaValIleAlaLeu

ArgIleValIleTyrValValGlnMetLeuSerArgLeuArgLys

2100

GlyTyrArgProValPheSerSerProProGlyTyrIleGlnGln

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C2
 IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr
 2200
 GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp
 ProlleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu
 LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer
 2300
 PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu
 ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln
 2400
 GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla
 GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg
 2500
 GlyIleLeuAlaValProArgArgIleArgGlnGlyAlaGluIle
 AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu
 2600
 TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal
 GlnAlaThrLysTyrGly

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11241 Subt
C3
52. (Once Amended) A method of producing a hybridization probe for HIV-2 RNA, said method comprising:

- a) [recombinantly synthesizing a] providing a recombinant cloning vector, wherein said vector comprises nucleic acid [corresponding] complementary to HIV-2 RNA;
- b) cloning said vector in a competent cellular host;
- and
- c) recovering the DNA-recombinants.

11241 as amended
clone
C4
54. (Once Amended) The method of claim 52, wherein said ^{probe} nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

GTGGAAGGCGAGACTGAAAGCAAGAGGAATACCATTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGGCTGTAACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGGAACGCCTCATATTCCTGTATAATATACCCGCTGCTAG
CATTTGTACTTCAGTCGCTCTGCGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGCTGGCAGACGGCCCCACGCTTGCTGCTTAAAA
ACCTTCCTTAATAAAGCTGCAGTAGAAGCA

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55. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2:

CAGRODH

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr
400
ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer
ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys
PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly
500
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp
HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu
600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro
AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr
700
ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

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C4

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal
LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
1100
AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
1200
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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56. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

C4

ArgLysAlaPheLys
CysTrpAsnCysGlyLysGlnGlyHisSerAlaArgGlnCysArg
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGln
GlnArgGlnArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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D

57. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

probe

C4

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr

400

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58. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

300
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

HisGlnAlaAlaMetGlnIleIleArgGlnIleIleAsnGluGln

600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700
ThrSerThrValGlnGluGlnIleGlnTrpMetPheArgProGln

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle

800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu

AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp

900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal

LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro

AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu

1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln

LysAlaArgLeuMetAlaGlnAlaLeuLysGluValIleGlyPro

1100
AlaProIleProPheAlaAlaAlaGlnGln

C4

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59. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2: **ENV2**

MetMetAsnGlnLeuLeuIleAlaIleLeuLeuAlaSerAlaCys
LeuValTyrCysThrGlnTyrValThrValPheTyrGlyValPro
ThrTrpLysAsnAlaThrIleProLeuPheCysAlaThrArgAsn
100
ArgAspThrTrpGlyThrIleGlnCysLeuProAspAspAsp
TyrGlnGluIleThrLeuAsnValThrGlnAlaPheAspAlaTrp
200
AsnAsnThrValThrGlnGlnAlaIleGluAspValTrpHisLeu
PheGlnThrSerIleLysProCysValLysLeuThrProLeuCys
300
ValAlaMetLysCysSerSerThrGluSerSerThrGlyAsnAsn
ThrThrSerLysSerThrSerThrThrThrThrThrProThrAsp
400
GlnGlnGlnGluIleSerGluAspThrProCysAlaArgAlaAsn
AsnCysSerGlyLeuGlyGluGluGluThrIleAsnCysGlnPhe
AsnMetThrGlyLeuGluArgAspLysLysLysGlnTyrAsnGlu
500
ThrTrpTyrSerLysAspValValCysGluThrAsnAsnSerThr
AsnGlnThrGlnCysTyrMetAsnHisCysAsnThrSerValIle
600
ThrGluSerCysAspLysHisTyrTrpAspAlaIleArgPheArg
TyrCysAlaProProGlyTyrAlaLeuLeuArgCysAsnAspThr
700
AsnTyrSerGlyPheAlaProAsnCysSerLysValValAlaSer

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ThrCysThrArgMetMetGluThrGlnThrSerThrTrpPheGly

800

PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis

GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn

900

LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln

IleMetLeuMetSerGlyHisValPheHisSerHisTyrGlnPro

IleAsnLysArgProArgGlnAlaTrpCysTrpPheLysGlyLys

1000

TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro

ArgTyrArgGlyThrAsnAspThrArgAsnIleSerPheAlaAla

1100

ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn

CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn

1200

TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysHisIle

LysGlnIleIleAsnThrTrpHisLysValGlyArgAsnValTyr

1300

LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr

SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn

IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu

1400

GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg

1500

GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly

SerAlaMetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer

1600

ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnGlnLeuLeu

AspValValLysArgGlnGlnGluLeuLeuArgLeuThrValTrp

1700

GlyThrLysAsnLeuGlnAlaArgValThrAlaIleGluLysTyr

LeuGlnAspGlnAlaArgLeuAsnSerTrpGlyCysAlaPheArg

1800

GlnValCysHisThrThrValProTrpValAsnAspSerLeuAla

ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal

ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln

1900

IleGlnGlnGluLysAsnMetTyrGluLeuGlnLysLeuAsnSer

TrpAspIlePheGlyAsnTrpPheAspLeuThrSerTrpValLys

2000

TyrIleGlnTyrGlyValLeuIleIleValAlaValIleAlaLeu

ArgIleValIleTyrValValGlnMetLeuSerArgLeuArgLys

2100

GlyTyrArgProValPheSerSerProProGlyTyrIleGlnGln

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c 4
IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr

GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp 2200

ProIleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu

LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer

2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu

ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln

2400
GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla

GlyAlaCysArgGlyLeuTrpArgValLeuGlnArgIleGlyArg

2500
GlyIleLeuAlaValProArgArgIleArgGlnGlyAlaGluIle

AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu

2600
TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal

GlnAlaThrLysTyrGly

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Please cancel claims 50-51 and 60-61 without prejudice or disclaimer and add the following new claims 62-71.

11241 Subst
RNA3
subil. probe
62. A method of detecting HIV-2 retrovirus RNA in a biological sample, said method comprising:

- a) contacting said sample with a (probe) wherein said probe comprises nucleic acid, wherein said nucleic acid is complementary to HIV-2 RNA;
- b) washing the resulting hybrid under stringent conditions; and
- c) detecting said hybrid.

63. The method of claim 62, wherein said nucleic acid comprises cDNA. ^{probe}

64. The method of claim 62, wherein said ^{probe} nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise the following sequence:

GTGGAACGCGAGACTGAAAGCAAGAGGAATACCATTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAAGGGGTGTAAACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGGAAACGCTCATATTCTCTGTATAATATACCCGCTGCTTG
CATTGTACTTCAGTCGCTCTGCGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGCTGGCAGACGGCCCCACGCTTGCTGCTTAAAA
ACCTTCCTTAATAAAGETGCAGTAGAAGCA

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65. The method of claim 62, wherein said ^{probe}nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: CAGCRODN

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu

LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg

LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly

100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle

LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu

200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla

GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg

300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer

ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr

400
ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

500
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu

600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700
ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

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AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
 GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu 800
 AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
 ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal 900
 LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
 AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
 GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln 1000
 LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
 AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys 1100
 CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
 AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis 1200
 IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
 GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal 1300
 ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
 AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
 GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis 1400
 LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
 LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln 1500

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66. The method of claim 62, wherein said ^{probe}nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

C5

ArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
...
1200
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGln
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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67. The method of claim 62, wherein said ^{probe}nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

C5

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr
400

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probe

68. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

500
CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

HisGlnAlaAlaMetGlnIleIleArgGlnIleIleAsnGluGln

600
AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700
ThrSerThrValGlnGlnGlnIleGlnTrpMetPheArgProGln

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle

800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu

AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp

900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal

LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro

AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu

1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln

LysAlaArgLeuMetAlaGlnAlaLeuLysGluValIleGlyPro

1100
AlaProIleProPheAlaAlaAlaGlnGln

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69. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2: ENV2

MetMetAsnGlnLeuLeuIleAlaIleLeuLeuAlaSerAlaCys

LeuValTyrCysThrGlnTyrValThrValPheTyrGlyValPro

ThrTrpLysAsnAlaThrIleProLeuPheCysAlaThrArgAsn

100 ArgAspThrTrpGlyThrIleGlnCysLeuProAspAspAspAsp

TyrGlnGluIleThrLeuAsnValThrGluAlaPheAspAlaTrp

200 AsnAsnThrValThrGlnGlnAlaIleGluAspValTrpHisLeu

PheGluThrSerIleLysProCysValLysLeuThrProLeuCys

300 ValAlaMetLysCysSerSerThrGluSerSerThrGlyAsnAsn

ThrThrSerLysSerThrSerThrThrThrThrThrProThrAsp

400 GlnGluGlnGluIleSerGluAspThrProCysAlaArgAlaAsp

AsnCysSerGlyLeuGlyGluGluGluThrIleAsnCysGlnPhe

AsnMetThrGlyLeuGluArgAspLysLysLysGlnTyrAsnGlu

500 ThrTrpTyrSerLysAspValValCysGluThrAsnAspSerThr

AsnGlnThrGlnCysTyrMetAsnHisCysAsnThrSerValIle

600 ThrGluSerCysAspLysHisTyrTrpAspAlaIleArgPheArg

TyrCysAlaProProGlyTyrAlaLeuLeuArgCysAsnAspThr

700 AsnTyrSerGlyPheAlaProAsnCysSerLysValValAlaSer

ThrCysThrArgMetMetGluThrGlnThrSerThrTrpPheGly

800

PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis

GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn

900

LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln

IleMetLeuMetSerGlyHisValPheHisSerHisTyrGlnPro

IleAsnLysArgProArgGlnAlaTrpCysTrpPheLysGlyLys

1000

TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro

ArgTyrArgGlyThrAsnAspThrArgAsnIleSerPheAlaAla

1100

ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn

CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn

1200

TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysHisIle

LysGlnIleIleAsnThrTrpHisLysValGlyArgAsnValTyr

1300

LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr

SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn

IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu

1400

GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg

1500

GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly

SerAlaMetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer

1600

ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnGlnLeuLeu

AspValValLysArgGlnGlnGluLeuLeuArgLeuThrValTrp

1700

GlyThrLysAsnLeuGlnAlaArgValThrAlaIleGluLysTyr

LeuGlnAspGlnAlaArgLeuAspSerTrpGlyCysAlaPheArg

1800

GlnValCysHisThrThrValProTrpValAsnAspSerLeuAla

ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal

ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln

1900

IleGlnGlnGluLysAsnMetTyrGluLeuGlnLysLeuAsnSer

TrpAspIlePheGlyAsnTrpPheAspLeuThrSerTrpValLys

2000

TyrIleGlnTyrGlyValLeuIleIleValAlaValIleAlaLeu

ArgIleValIleTyrValValGlnMetLeuSerArgLeuArgLys

2100

GlyTyrArgProValPheSerSerProProGlyTyrIleGlnGln

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05

IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr
GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp 2200
ProIleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu
LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer
2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu
ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln
2400
GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla
GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg
2500
GlyIleLeuAlaValProArgArgIleArgGlnGlyAlaGluIle
AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu
2600
TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal
GlnAlaThrLysTyrGly

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